

HP1 α Blocking Peptide

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Description: This peptide is used to block HP1 α (C7F11) Rabbit mAb #2623 reactivity in peptide dot blot protocols.

Background: Heterochromatin protein 1 (HP1) is a family of heterochromatic adaptor molecules involved in both gene silencing and higher order chromatin structure (1). All three HP1 family members (α , β and γ) are primarily associated with centromeric heterochromatin; however, HP1 β and γ also localize to euchromatic sites in the genome (2,3). HP1 proteins are approximately 25 kDa in size and each contains a conserved amino-terminal chromodomain, followed by a variable hinge region and a conserved carboxy-terminal chromoshadow domain. The chromodomain facilitates binding to histone H3 tri-methylated on Lys9, a histone "mark" closely associated with centromeric heterochromatin (4,5). The variable hinge region binds both RNA and DNA in a sequence-independent manner (6). The chromoshadow domain mediates the dimerization of HP1 proteins, in addition to binding multiple proteins implicated in gene silencing and heterochromatin formation, including the SUV39H histone methyltransferase, the DNMT1 and DNMT3a DNA methyltransferases and the p150 subunit of chromatin-assembly factor-1 (CAF1) (7-9). In addition to contributing to heterochromatin formation and propagation, HP1 and SUV39H are also found complexed with retinoblastoma (Rb) and E2F6 proteins, both of which function to repress euchromatic gene transcription in quiescent cells (10,11). HP1 proteins are subject to multiple types of post-translational modifications, including phosphorylation, acetylation, methylation, ubiquitination and sumoylation, suggesting multiple means of regulation (12-14).

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks HP1 α (C7F11) Rabbit mAb #2623 by peptide dot blot.

Directions on Use: Recommended antibody dilutions can be found on the relevant product data sheet.

Storage: Supplied in 20 mM potassium phosphate (pH 7.0), 50 mM NaCl, 0.1 mM EDTA, 1 mg/ml BSA and 5% glycerol. 1% DMSO Store at -20°C.

Background References:

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